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Application No.: 10/699,323   Docket No.: MWS-089

AMENDMENTS TO THE CLAIMS

1. (Currently Amended)   A method ~~of building a diagram,~~ comprising ~~the steps of~~:

receiving a~~n~~ ~~user~~ input for selecting a first graphical object in ~~the~~ an executable block diagram representing a system, the first graphical object having one or more properties; ~~and~~

displaying ~~to a user~~ a ~~plurality~~ list of one or more transformation operations ~~to be performed~~ performable on the ~~selected~~ first graphical object for transforming the first graphical object into a second graphical object for the executable block diagram;

receiving an input for selecting one of the one or more transformation operations; and

applying the selected one of the one or more transformation operations on the first graphical object for creating th~~e~~ a second graphical object, the second graphical object having one or more properties that are different from the one or more properties of the first graphical object ~~derived from the selected graphical object~~.

2. (Currently Amended)   The method of claim 1, wherein the ~~plurality~~ list ~~of transformation operations are~~ is displayed in one of a context menu, a toolbar ~~and~~ or a roll-up menu.

3. (Currently Amended)   The method of claim 1, wherein the first graphical object is selected ~~user input indicates that the user has selected the graphical object~~ by moving a pointer over the first graphical object.

4. (Canceled)

5. (Canceled)

6. (Currently Amended)   The method of claim [[5]] 1, wherein the ~~transformed~~ second graphical object is created in the executable block diagram.

7. (Currently Amended)   The method of claim [[5]] 1, wherein the ~~transformed~~ second graphical object has a class that is different ~~class~~ from a class of the ~~selected~~ first graphical object.

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8. (Currently Amended)   The method of claim [[7]] 1, wherein the ~~transformed~~ second graphical object is an instance of a superclass of the ~~selected~~ first graphical object.

9. (Currently Amended)   The method of claim [[7]] 1, wherein the ~~transformed~~ second graphical object is an instance of a subclass of the ~~selected~~ first graphical object.

10. (Currently Amended)   The method of claim [[5]] 1, wherein the ~~transformed~~ second graphical object shares a base class with the ~~selected~~ first graphical object.

11. (Canceled)

12. (Currently Amended)   The method of claim [[2]] 1, wherein the selected transformation operation is a copy and morph operation~~, wherein the transformed graphical object has one or more properties that are different from the selected graphical object~~.

13. (Currently Amended)   The method of claim [[12]] 1, wherein the ~~transformed~~ second graphical object is a signal tap block for tapping a signal from the ~~selected~~ first graphical object.

14. (Currently Amended)   The method of claim 13, wherein the ~~selected~~ first graphical object is a block having an output that represents the signal.

15. (Currently Amended)   The method of claim 13, wherein the ~~selected~~ first graphical object is a line representing the signal.

16. (Currently Amended)   The method of claim [[12]] 1, wherein the ~~selected~~ first graphical object and the ~~transformed~~ second graphical object are functionally related blocks.

17. (Currently Amended)   The method of claim [[16]] 1, wherein the ~~selected~~ first graphical object and the ~~transformed~~ second graphical object are one of source blocks ~~and~~ or sink blocks.

18. (Currently Amended)   The method of claim [[12]] 1, wherein the ~~transformed~~ second graphical object is an inverse graphical object of the ~~selected~~ first graphical object.

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19. (Currently Amended)   The method of claim [[18]] 1, wherein one of said the transformed second graphical object andor said selected the first graphical object is a bus creator block and the other of said transformed the second graphical object and said selected the first graphical object is a bus selector block.

20. (Canceled)

21. (Currently Amended)   The method of claim [[20]] 1, wherein the transformed second graphical object has one or more implicit links to the selected first graphical object.

22. (Canceled)

23. (Currently Amended)   The method of claim [[5]] 1, further comprising: wherein the step of executing the selected transformation operation comprises
    executing a customized transformation operation created by a user.

24. (Currently Amended)   A method of building a diagram, comprising the steps of:
    receiving an user input for selecting a first graphical object in the an executable block diagram representing a system, the first graphical object having one or more properties; and
        displaying a list of one or more transformation operations performable on the first graphical object;
        receiving an input for selecting a transformation operation in the list; and
        based on the selected transformation operations, executing a copy and morph operation on the first graphical object to create a second graphical object for the executable block diagram, derived from the first graphical object, wherein the second graphical object automatically has having one or more properties that are different than from the one or more properties of the first graphical object.

25. (Currently Amended)   The method of claim 24, wherein the selected first graphical object is a block outputtingoutputs a signal, and wherein the step of executing a the copy and morph operation further comprises:

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creating a signal tap block for tapping the signal.

26. (Currently Amended)   The method of claim 24, wherein the ~~selected~~ first graphical object is a line representing a signal, and wherein ~~the step of~~ executing ~~a~~ the copy and morph operation further comprises:

creating a signal tap block for tapping the signal.

27. (Currently Amended)   The method of claim 24, wherein the ~~selected~~ first graphical object and the ~~transformed~~ second graphical object are functionally related blocks.

28. (Currently Amended)   The method of claim [[27]] 24, wherein the ~~selected~~ first graphical object and the ~~transformed~~ second graphical object are source blocks.

29. (Currently Amended)   The method of claim 24, wherein the ~~transformed~~ second graphical object is an inverse graphical object of the ~~selected~~ first graphical object.

30. (Currently Amended)   The method of claim [[29]] 24, wherein one of ~~said~~ the ~~transformed~~ second graphical object ~~or~~ and ~~said~~ the ~~selected~~ first graphical object is a bus creator block and the other of ~~said~~ the ~~transformed~~ second graphical object and ~~said~~ the ~~selected~~ first graphical object is a bus selector block.

31. (Canceled)

32. (Currently Amended)   The method of claim [[31]] 24, wherein ~~the step of selecting comprises selecting a copy and morph operation~~ the list is displayed in one of a context menu, a toolbar or a roll-up menu ~~from a context menu displaying a plurality of transformation operations to the user~~.

33. (Currently Amended)   The method of claim 24, further comprising:

~~the step of~~ receiving a ~~user~~ command associated with ~~a~~ the copy and morph operation ~~prior to the step of executing the copy and morph operation~~.

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34. (Currently Amended)   The method of claim 33, wherein the ~~user enters the~~ command is received from ~~using~~ a command line mechanism.

35. (Canceled)

36. (Canceled)

37. (Currently Amended)   A method ~~of building a graphical diagram,~~ comprising ~~the steps of:~~

    receiving an ~~user~~ input for selecting a graphical object in an executable ~~graphical~~ block diagram representing a system, the selected graphical object having one or more properties; ~~and~~

    displaying a list of one or more transformation operations performable on the selected graphical object;

    receiving an input for selecting a transformation operation from the list; and

    based on the selected transformation operation, executing a morph operation on the selected graphical object to change one or more properties of the selected graphical object~~, thereby creating a transformed graphical object derived from the selected graphical object~~.

38. (Currently Amended)   The method of claim 37, wherein ~~the step of~~ executing the morph operation further comprises:

    morphing the selected graphical object to a signal tap block for tapping a signal.

39. (Currently Amended)   The method of claim 37, wherein ~~the step of~~ executing the morph ~~operating~~ operation further comprises:

    morphing the selected graphical object into a functionally related graphical object.

40. (Currently Amended)   The method of claim 37, wherein ~~the step of~~ executing the morph ~~operating~~ operation further comprises:

    morphing the selected graphical object into an inverse graphical object.

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41. (Currently Amended)   The method of claim 40, wherein one of ~~said~~ the inverse graphical object ~~and~~ or ~~said~~ the selected graphical object is a bus creator block and the other of ~~said~~ the inverse graphical object and ~~said~~ the selected graphical object is a bus selector block.

42. (Canceled)

43. (Currently Amended)   The method of claim [[42]] 37, wherein ~~the step of selecting comprises selecting a morph operation~~ the list is displayed in one of a context menu, a toolbar or a roll-up menu ~~from a context menu displaying a plurality of transformation operations to the user~~.

44. (Currently Amended)   The method of claim 37, further comprising: ~~the step of~~ receiving a ~~user~~ command associated with the morph operation ~~prior to the step of executing the morph operation~~.

45. (Currently Amended)   The method of claim 44, wherein the ~~user enters the~~ command is received from ~~using~~ a command line mechanism.

46. (Canceled)

47. (Canceled)

48. (Currently Amended)   ~~In a graphical modeling environment, a~~ A computer-readable medium holding computer-executable instructions, the medium ~~instructions~~ comprising:
        one or more instructions for receiving an ~~a user~~ input for selecting a first graphical object in an executable block ~~graphical~~ diagram representing a system, the first graphical object having one or more properties; ~~and~~
        one or more instructions for displaying a list of one or more ~~to the user a plurality of~~ transformation operations ~~to be performed~~ performable on the ~~selected~~ first graphical object for transforming the first graphical object into ~~creating~~ a second graphical object for the executable block diagram;

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one or more instructions for receiving an input for selecting one of the one or more transformation operations; and

one or more instructions for applying the selected one of the one or more transformation operations on the first graphical object for creating the second graphical object, the second graphical object having one or more properties that are different from the one or more properties of the first graphical object~~derived from the selected graphical object~~.

49. (Currently Amended)   The medium of claim 48, further ~~holding~~comprising:

one or more instructions for receiving an ~~a user~~ input for selecting ~~one of the~~ a transformation operations ~~operations~~ from the list ~~plurality of transformation operations~~; and

one or more instructions for executing the selected transformation operation on the ~~selected~~ first graphical object to create ~~a transformed~~ the second graphical object.

50. (Currently Amended)   ~~In a graphical modeling environment, a~~A computer-readable medium holding computer-executable instructions, the medium ~~instructions~~ comprising:

one or more instructions for receiving an ~~a user~~ input for selecting a first graphical object in an executable block ~~graphical~~ diagram representing a system, the first graphical object having one or more properties;

one or more instructions for displaying a list of one or more transformation operations performable on the first graphical object;

one or more instructions for receiving an input for selecting a transformation operation in the list; and

one or more instructions for, based on the selected transformation operation, executing a copy and morph operation on the first graphical object to create a second graphical object for the executable block diagram, ~~derived from the first graphical object, wherein~~ the second graphical object ~~has~~ having one or more properties that are different from the one or more properties of ~~than~~ the first graphical object.

51. (Currently Amended)   ~~In a graphical modeling environment, a~~A computer readable medium holding computer-executable instructions, the medium ~~instructions~~ comprising:

one or more instructions for receiving an a user input for selecting a graphical object in an executable block graphical diagram representing a system, the selected graphical object having one or more properties;

one or more instructions for displaying a list of one or more transformation operations performable on the selected graphical object;

one or more instructions for receiving an input for selecting a transformation operation from the list; and

one or more instructions for, based on the selected transformation operation, executing a morph operation on the selected graphical object to change one or more properties of the selected graphical object for the executable block diagram, thereby creating a transformed graphical object based on the selected graphical object.

52. (Currently Amended)   A system for generating and displaying a modeling application, comprising:

user operable input means for inputting data to the a modeling application;

a display device for displaying an executable block diagram representing a system, the executable block diagram containing a first graphical object, the first graphical object having one or more properties;

receiving means for receiving an input for selecting the first graphical object in the executable block diagram; and

an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including:

instructions for displaying a list of one or more plurality of transformation operations to be performed performable on a the first graphical object after the user selects the graphical object for transforming the first graphical object into a second graphical object for the executable block diagram, and

instructions for applying a selected one of the one or more transformation operations on the first graphical object for creating the second graphical object, the second graphical object having one or more properties that are different from the one or more properties of the first graphical object.

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53. (Canceled)

54. (Currently Amended)   A system ~~for generating and displaying a modeling application for simulating a dynamic system,~~ comprising:

~~user-operable~~ input means for inputting data to ~~the~~ a modeling application;

a display device for displaying an executable block diagram representing ~~the~~ a dynamic system, the executable block diagram containing a first graphical object having one or more properties;

receiving means for receiving an input for selecting the first graphical object in the executable block diagram; and

an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including:

instructions for displaying a list of one or more of transformation operations performable on the first graphical object, and

instructions for, based on a selected transformation operation in the list, executing a copy and morph operation on ~~a~~ the first graphical object ~~in the diagram~~ to create a second graphical object for the executable block diagram, ~~based on the first graphical object when a user selects the first graphical object, wherein~~ the second graphical object having ~~has~~ one or more properties that are different ~~than~~ from the one or more properties of the first graphical object.

55. (Currently Amended)   A system ~~for generating and displaying a modeling application for simulating a dynamic system,~~ comprising:

~~user-operable~~ input means for inputting data to ~~the~~ a diagramming application;

a display device for displaying an executable block diagram representing ~~the~~ a dynamic system, the block diagram containing a graphical object having one or more properties;

receiving means for receiving an input for selecting the graphical object in the executable block diagram; and

an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, the computer program instructions including:

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instructions for <u>displaying a list of one or more of transformation operations</u>
<u>performable on the selected graphical object, and</u>

<u>instructions for, based on a selected transformation operation in the list,</u> executing
a morph operation on ~~a~~ <u>the</u> selected graphical object ~~in the diagram~~ to change one or
more properties <u>of the selected graphical object for the executable block diagram.</u>

~~of the selected graphical object when a user selects the first graphical object,~~
~~thereby creating a transformed graphical object based on the selected graphical object.~~

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